# AP Microeconomics
# Test: Basic Economic Concepts

## Instructor's Version

## Answers: Free-Response Questions

**1. Marvin owns Merry Marvin's Merry-Go-Rounds. He works out of the garage at his home. Since his business is booming, he uses the whole garage to make and sell merry-go-rounds**

**A. What is the opportunity cost of using his garage to build merry-go-rounds? Give a specific definition of opportunity cost, and then provide an example of Marvin's opportunity cost.** (3 points)

Opportunity cost is the value of the next best opportunity foregone. In Marvin's case, the opp. cost might be the loss of using the garage to paint his bookshelves or park his convertible.

*2 points for the definition*
*1 point for the example*

**B. If Marvin hires an accountant to determine his profits, his accountant is likely to determine a higher profit than Marvin would determine if he used economic theory to determine his profit. What is the difference, and why would his accountant come up with a greater profit than an economist would calculate?** (3 points)

Accounting profit is total revenue minus explicit costs. Economic profit is total revenue minus explicit and implicit costs. Therefore economic profit will be lower than accounting profit, since it includes more costs.

*1 point for each definition*
*1 point for the logical conclusion*

**C. If the economist determines that Marvin is earning zero profit even with booming sales, do you think Marvin will close his business? Explain your answer.** (4 points)

No, zero economic profit is actually positive accounting profit. It is called normal profit. It is the profit Marvin could expect to earn if he used his resources in some alternative venture. Therefore, Marvin will likely stay in business.

*1 for stay in business*
*1 for definition of normal profit*
*1 for recognition that zero economic profit = normal profit*
*1 for positive accounting profit*

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**2. Here is the production information for workers at a beauty salon, Doo Right. The owner is trying to determine how many stylists to hire.**

| number of stylists | total haircuts sold a day |
|---|---|
| 0 | 0 |
| 1 | 15 |
| 2 | 30 |
| 3 | 45 |
| 4 | 55 |
| 5 | 58 |
| 6 | 59 |
| 7 | 60 |
| 8 | 59 |

**A. What choices will the owner face in the short run? List two.** (2 points)

inputs that can be changed in the short run include shampoo, number of stylists, etc

*1 point for each thing that the student correctly says can be changed, up to two points*

**B. What choices will the owner face in the long run? List two.** (2 points)

inputs that can be changed in the long run include location, number of sinks, number of chairs, etc; alternatively, the student could say all factors can be changed in the long run

*1 point for each thing that the student correctly says can be changed, up to two points*
*full credit for saying all inputs can be changed*

**C. Fill in the following chart.** (3 points)

| number of stylists | total haircuts sold a day | **marginal product** |
|---|---|---|
| 0 | 0 | * |
| 1 | 15 | **15** |
| 2 | 30 | **15** |
| 3 | 45 | **15** |
| 4 | 55 | **10** |
| 5 | 58 | **3** |
| 6 | 59 | **1** |
| 7 | 60 | **1** |
| 8 | 59 | **-1** |

*minus 1 if 1-2 are wrong*
*minus 2 if all are right but off by one row*
*minus 3 if more than two are wrong (ignore the first row)*

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**D. Explain what happens to production when the sixth, seventh, and eighth stylists are added. Why does this happen?** (3 points)

Doo Right experiences decreasing returns, as the workers begin to get in each other's way.

*1 point for decreasing returns*
*2 points for why*

**3. Cost Curves**

**A. Draw a graph sketching the cost curves for a hypothetical paper manufacturer. Show the ATC, AVC, AFC, and MC curves. Clearly label the key relationships between the curves.** (15 points)

***see graph page 163, graph B of the text book***
keys include the shapes of the curves, MC intersects AVC and ATC at their minimums, AVC and ATC have similar shapes, and AFC decreases, and the axes are correctly labeled

*subtract 2 points for each missed key, up to 15 points*

**B. On a new graph, draw a long-run ATC curve. Indicate which sections on the curve reflect increasing, decreasing, and constant returns to scale. What do we know about the relationship between the long- run ATC curve and the short-run ATC curves?** (10 points)

***see graph page 176***
LR ATC curve envelopes the minimum of the SR ATC curves.

*1 point for each return to scale*
*5 points for the graph*
*2 points for the envelope idea*

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